
Hurricane Maria, personal and collective suffering, and psychosocial support as a cross-cutting intervention

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Editor's Preface

We had planned to publish the abstracts and the best 10 papers from the Sixth ASEAN Regional Union of Psychological Societies (ARUPS) Congress, which was to be held in Bali on 12–14 October 2017. Then the volatile Mount Agung threatened to erupt in Bali and the conference was postponed until sometime in 2018, too late for our journal.

At the same time, Puerto Rico was devastated by a hurricane and still-delayed adequate recovery assistance. Maybe someday Puerto Rico will have solar powered homes and hospitals, but at this writing, more than a month after the hurricane, power remains out for most of the island, disastrous for public health and even survival.

Both of these events, Bali and Puerto Rico, are important in-context demonstrations of the current accelerating climate change challenges for tropical peoples and the tropical psychologists who want to help them. While the deserved publications of the ARUPS Congress can, while delayed, yet occur in some form and journal next year, the human ongoing tragedy in Puerto Rico remains fully in crisis.

To replace our planned ARUPS publications, I asked psychologist Joseph O. Prewitt Diaz, to write us a report instead,

one based on his very current visit to Puerto Rico. We could not ask for a more outstanding expert psychologist for this. He is the President and CEO of the Research Center on Psychosocial Support, recognized as a strong force in the development of community based psychosocial support in disasters. His achievements include, but are not limited to, the following: (1) Authored or co-authored 197 refereed articles and 28 books; (2) Conversant in Spanish (native language), English, French, Portuguese and Caribbean Creole; (3) Served in over 50 humanitarian catastrophes in the United States, Central and South America and Asia; (4) Managed multi-million dollar recovery projects; (5) Advocated for inclusion of mental health and psychosocial support in International guidelines and standards to protect survivors; and (6) Received the 2008 American Psychological Association International Humanitarian Award, ARC Tiffany Award (First Tier) 2006, and the American Red Cross Special Achievement Award, and named American Red Cross Volunteer of the Year Lancaster Chapter 1992.

His timely and urgent report follows.

Robert F. Morgan, editor

Here we discuss the role of psychosocial support activities in the immediate aftermath of Hurricane Maria in Puerto Rico. We report comments from 630 survivors from 22 towns. The focus is given to reactions, risk factors and resilience. The responses of the survivors were divided into individual and community losses. We propose that the response to such a catastrophic event was psychosocial and give suggestions for psychosocial support during future disaster responses.

■ **Keywords:** Hurricane Maria, collective suffering, psychosocial support

Introduction

Hurricanes and weather events are becoming increasingly common in the Caribbean region, having a significant psychosocial impact on survivors. This impact results in psychosocial distress and can lead to psychosocial disorders and mental health needs. Hurricane Maria made landfall just south of Yabucoa Harbor in Puerto Rico at 6:15 a.m. on 20 September 2017. The National Weather Service recorded maximum sustained winds of 155 miles per hour, making Maria the first Category 4 cyclone to hit the island since 1932 and Maria was just short of being classified as Category 5. Parts of Puerto Rico experienced 30 inches of rain in one day, equal to the amount that Houston received over three days during Hurricane Harvey. The winds caused tornado-like damage over a swath of the island. The winds were strong enough to destroy the National Weather Service's observing sensors in the territory, forcing meteorologists to measure the storm entirely by satellite.

The storm knocked out power to the entire island. Much of the island's population was unable to access clean water and was without electrical power. Local officials warned that, in some towns, 80 to 90 per cent of structures could be destroyed. During the morning of 21 September, the day after landfall, rain from the storm continued to deluge Puerto Rico, and the National Weather Service warned of catastrophic flooding in the territory's mountainous interior.

Tailoring psychosocial support to the immediate disaster response might have alleviated emotional suffering to thousands of island residents. Although many of the previous disasters shared many characteristics (such as potentially traumatic events), distinct variations in the type, scope and population impact of these events and the structure of existing health service systems highlight the need to tailor psychosocial responses.

Most of the island's hospitals were without electricity. The road infrastructure was damaged, and transportation of emergency vehicles, including ambulances, was limited or non-existent. In some parts of the Central Mountain region, access remains limited one month after the Hurricane. A large portion of the region's mental health providers was affected by the disaster, and would not return to their offices until the curfew was lifted, three weeks after the Hurricane. The impact of Hurricane Maria required the mobilization of local, national and international resources to address the basic needs of the population.

This commentary is a preliminary report on the psychosocial support needs identified during 128 interviews held with survivors during a 10-day period in the immediate aftermath of the hurricane. Here we attempt to shed light on the comments from PREMA (the Puerto Rico Emergency Management Agency), which suggested that recovery from this disaster had nothing to do with psychosocial support.

The hurricane

Hurricane Maria made landfall on 20 September 2017, and wreaked havoc on the island, causing widespread destruction and disorganization similar to Hurricanes Katrina and Andrew. Meteorologically, Maria was nearly a worst-case scenario for Puerto Rico. The center of a huge, almost Category 5 hurricane, made a direct hit, lashing the island with wind and rain for more than 30 hours, crossing the island from the southeast to the northwest.

The hurricane was catastrophic, destroying a large amount of the built environment, including roads, causing the collapse of the electric grid, shutting down running water for one week, and disrupting ground and radio communications. Many elderly and sick patients who depend on electrically-run life support were at extreme risk of losing their lives. A recent report suggests that more than 900 people have died since the hurricane (Osborne, 2017).

It is very difficult to navigate the impact zone and extremely difficult to pre-position supplies, many of which might have been destroyed. Thus, Hurricane Maria was more devastating than hurricanes Irma and Harvey, both of which left much of the nearby infrastructure standing. In both storms, supplies that were positioned inland or in Atlanta were available after the storms had passed.

Method

Interviews were held by 10 two-person psychosocial support teams in 22 towns located within the path of the Hurricane. These informal interviews provided a glimpse of the psychosocial impact of the Hurricane. All interviews were conducted within 10 days of the Hurricane (22 September–3 October 2017).

The respondents were asked three questions: (1) What is your reaction to the hurricane (reactions); (2) Can you describe what you have been doing since the hurricane (risk factors); and (3) What are the next steps (resilience factors)? These factors combined give us a complete view of the person and his/her needs for psychological first aid (PFA) (American Red Cross, 2017). The interviews were recorded and compiled daily in a group meeting. The mean interview time was 30 minutes. The results are reported below.

One shortcoming of this report is that many people left Puerto Rico in the immediate aftermath of the hurricane, as well as others in the subsequent weeks, and thus were unavailable for an interview. We do not yet know how these people will cope in the United States. We have comments from family members who stayed behind:

The hurricane separated me from my parents, they have gone to Orlando, which is a strange land, they will never adjust.

Another respondent had sent her children from the Barrio down to the town to stay with her parents:

The girls are gone, they are living in a strange and different place. I feel bad for them.

The town is only 2 km from their destroyed house.

Impact of Hurricane Maria

On the night of 20 September, psychosocial distress was felt by all of the island's inhabitants. The extent of the reaction was based on the period that they were exposed to the high winds and the heavy rains and the distance from vegetation. The feeling of being attacked by the winds, the level of rivers and creeks, and mudslides were frequently reported in the first days after the hurricane. It is as yet unclear how many survivors were psychologically injured as a result of exposure to the hurricane and the subsequent days of deprivation of basic needs, shelter and water.

As the groups began their visits, they saw people wandering, others in small groups in the street corners, and yet others walking around the neighbourhood looking at all the damage and trying to figure out their next step. Most of the interviewees talked about the destruction of the built and natural environment: "Look, everything is broken, covered with mud and destroyed". This was a reflection of the newly opened wounds in the hearts and minds of the survivors. They felt a "hurting" deep inside and did not know what to do, other than to sit and look, and to wait. People were in a state of shock.

Among those who are beginning to recover, there is a sense of loss of family continuity: "the children were sent to live with their aunt in Orlando. This will be the first Christmas away from us; we will not be a family anymore". The other marked comment addresses the loss of houses to mudslides and the wooden shacks due to the wind: "We have collected enough good wood and metal sheets to reconstruct a bigger house". Another respondent talked about the additional space as a result of the destruction. A person in Yabucoa (the town where the hurricane first struck), "now that those three lots are empty, I will be able to plant some *gandules*, banana, and make a vegetable garden".

Meanwhile, cities such as Orlando are dealing with tens of thousands of new immigrants from Puerto Rico five weeks after the Hurricane. Many of the reports are from family members who are beginning to develop a sense of vulnerability: "There are too many things happening to us, and all is bad, will we ever recover?" The reported reactions to the hurricane suggest potential negative impacts to psychosocial recovery.

There are five million Puerto Ricans, part of a diaspora of the larger cities, in the north and east of the United States. For the millions of people in the Puerto Rican diaspora, the lack of information from and reaching the island is one of the most disruptive parts of the disaster. For people living on the island, it is often impossible to get the word out as conditions deteriorate, to know when aid might be coming, or to coordinate the delivery and access to life-saving services. Their relatives, scattered across the United

States and elsewhere, have been left entirely in the dark as to the status of family members (Newkirk, 26 Sept. 2017). People are reporting that there is "no safe place to be".

For clarity, our findings described below are divided into sections addressing individual distress and loss of community.

The sudden, upsetting experience of living **through** and surviving the **hurricane: What have I done to bring all his misery unto me?**

More than three million people survived Hurricane Maria in Puerto Rico. This population experienced major or minor damages caused by winds, rain and mudslides. One-third of the deaths by drowning occurred in the western part of the island, where a river overflowed. In the Central Mountain Regions, there were severe winds that made the houses fly as though they were kites, mudslides that toppled large concrete houses and buried their occupants in the debris, an urban flood as high as six feet that forced the inhabitants to sit on their roofs and watch the destruction around them. It was a horrific site for the survivors.

After nearly eight hours of fighting with the elements, the survivors were depleted of energy, feared for their lives and were unable to relocate. An older gentleman told us:

I tried to go from my roof to my daughter's house next door, the water was up to my chest, the current tried to take me with it, I fought back, I felt that I was being washed away by the current, and finally when I got to the other house (about 15 feet away); I had no energy left, I couldn't move, and when I realized I could have been washed away I began to shake and cry.

It seemed that the creek was taking its revenge for the years that my family and I had thrown our trash and human waste into the creek, now the waters of the creek were everywhere, the water took two pigs and the chicken house. Inside of my house, about one foot came inside through the crack in the doors. The water danced around the rooms as though trying to decide whether it was going to wash us away as well. I see that dance of the water every time I close my eyes and I see and hear the water, as it was deciding whether to take us. It is like a scary dream.

Their description of events and their immediate responses was as though, as soon as they escaped, they were caught up in fear; their muscles were tensed and then totally relaxed, to the extent that it was difficult to get up, they had no strength, and no desire or will to move on.

"I faced death that day"

The people in the immediate trajectory of Hurricane Maria faced death. The winds exceeded 145 miles per hour; the rain was pouring into a soil that had experienced severe rainfall two weeks earlier, when Hurricane Irma barely missed the island, causing unpredictable mudslides in the mountain range that killed and isolated people.

In the town of Utuado, a father thought to protect his three younger daughters; he put them all in a bedroom in

the lower level of his concrete home. His wife and older sister remained in the upper level. Sometime in the middle of the night, the soil gave way, and a mudslide buried the three daughters who were sleeping in the lower level (Irizarry Álvarez, 2017). There were human losses all over the island. In the immediate aftermath of the hurricane, there were more than 900 deaths as a result of the loss of electricity, water and communications. In every town, there were people who had directly or indirectly lost someone to the hurricane.

Such a large number of deaths resulting from a single event does not easily dissipate from our awareness. It remains in our minds and haunts those who witnessed the decomposition and the smell of death.

I was near the house and heard the screams; the creek had taken Dona Margarita, we tried to help her but weren't able to take her out. Two days later we found her body by the bridge on the road. It smelled very bad, but we had to take her out so that we could do a Christian burial.

There were over 130 cadavers in the morgue; the refrigeration was not working very well, you could feel the smell of death three blocks away.

Why me?

The interviewees repeated similar comments regarding the survival of some and the death of others. About a woman who was carried away by the creek with her sister: "I don't know why my sister died and I am still alive". A son had just got out of the car to remove some debris from the road, and a mudslide covered him. His father and mother were in the car. "Why did God take my son and not me? I am ready, he was young, strong and had so much to contribute". There is a general feeling expressed by many on the island that the survivors have lived for a reason: "Maybe I am alive for a reason". This was often attributed to divine intervention. Also, as a result of survivor guilt, people have begun to isolate themselves.

Blame for what happens is another source of stress. I am guilty because . . . "I allowed him to come and pick me up", "I wasn't strong and agile enough to hold on to my sister", "This all happened because of the Hurricane", or "If we had moved to the States last year this wouldn't have happened". We expect that guilt and blame will accompany the survivors for a long time.

I lost everything that defined who I was

The people of Puerto Rico have a tradition of saving mementos of their life (e.g., their grandmother's rocking chairs, photos, baby clothes, rosary beads, diplomas, medals and books). Every home contains articles that are used as conversation pieces, detailing who the inhabitants are, where they have been and how they are related to the community or national events. The loss of those possessions may have a material value, but in terms of memorializing one's family's

life, they are invaluable. The loss of a home is more than the loss of a structure; it is the loss of the collective history of a family, dating back several generations.

Survivors express how their homes were a status symbol; they are

my family's museum, the loss of the place we know as home is irreplaceable and will be forever part of our loss. I will mourn my home forever. You don't know the depth of my emotional involvement in the construction, maintenance, and careful crafting of the legacy I wanted to leave to my children and grandchildren.

We are alive, but what defines us is gone forever.

I have to get away from here – the push and pull factor

The loss of order, everyday routine and the familiar environment affected many Hurricane Maria survivors: "I have lost my secure space; I have to get out of here". "The government didn't do enough to protect us, the economic situation of the island is the blame for all that has happened to us; how could this happen to us?" On the other hand, as soon as the immediate disaster recovery was underway, many people were called to their family's home in the United States. In the 30 days after the Hurricane, over 50,000 people left the island. This includes the elderly, young professionals, university students and other assorted technical employees. This sudden move is an example of a psychosocial response to a catastrophic event, resulting in a Puerto Rican brain drain.

Sense of loss of our community

Following Hurricane Maria, the affected people have been left alone, their natural and built environment has been destroyed, and they feel alone and psychosocially vulnerable. The barrio has been destroyed, the rooftops are gone, and the trees and other vegetation are no longer able to provide a layer of insulation from the outside dangers. Their neighbours have also been deeply affected or have left the immediacy of the barrio. There is no one available to warn you of imminent dangers, no one to care for you if you have an emergency or sudden illness. If you have an illness that requires electricity to run medical devices, there is no one around to take you to the hospital. And even if there was, the roads might be blocked, or the hospital may not be working, or have the necessary life support equipment that you need.

The survivors have to deal with the visual images of the destruction without the filter of someone close (e.g., a neighbour to help filter the emotional impact of those images). How many survivors are paralyzed by imaginary fears of being alone on this emotional voyage? Years of living in a community, in a specific geographic space and a particular environment, generates a culture unique to that community. In the immediate post-disaster interval, culture serves as a filter, thereby giving meaning to psychosocial fears and

needs. Culture helps the survivor to make sense of a precarious situation and to reduce the anxieties that one might feel while negotiating through these radical changes. Hurricane Maria took away the perceptions of being supported by the community; it stripped the illusion of having a place.

Sense of disorientation

Most people interviewed during the first week after the Hurricane felt disoriented. The world as they knew it had been destroyed. They had lost their community and emotional anchors to their neighbours and significant others in the community. Some examples of responses are as follows:

Every morning I leave the shelter and walk to my neighborhood. Sometimes I can't find my way, and other times I just look around and start crying.

I can't recognize my neighborhood, the houses are gone, so much empty space and the people are not around.

In the neighborhood, everyone walks around with nowhere to go.

I am staying with my daughter in Yabucoa. I wanted to come and see my neighbors, but when I got there, all the houses were gone. When I didn't see my neighbor's house I became very nervous and started crying, my chest was tight, and I couldn't breathe. I thought they were gone forever. I sat in a tree trunk and looked around; nothing fit the image of my "barrio" in my mind. My daughter stayed with me for a while and then took me back to her house. I was very nervous and didn't know what to do or to think; one day I had a beautiful little house, and wonderful neighbors, plants, and trees all around. The next day everything was gone, the land was barren of trees, and my neighbors were gone. I don't know where I am or where I am going.

All is a desolation; I don't know where I am right now. The wind came and took everything. Everything. Even my soul.

Sense of loss of connection

The hurricane disconnected the family, the neighbourhood and the community. Many of the respondents felt torn about leaving to go somewhere else. They expressed their sorrow, anger and disbelief. It was as if the island had not protected them in the moment of destruction. A man looked at the El Yunque mountain range in the distance and at the scars of discolouration of the soil left by the fast winds: "You, my mountain, couldn't protect us, but you took a heavy blow protecting the ones on the other side. I am not sure if I will ever see your greenness again."

It is time to move somewhere else; I feel lonely. My family left for Florida, but I will never leave the island. God! I am sad; I hear all that has happened. Give me peace.

I yearn for the sound of the coqui's (Puerto Rican singing frogs), and the smell of the floors. Nature has been destroyed forever.

The people of the neighbourhood had been left to themselves. They had an image of themselves that is no more. Even as they walked the streets of the neighbouring town,

they did not feel the same; nobody could tell who they were; they were different, or so they perceived themselves.

It looked like the survivors were unable to reconcile who they are with, who they had been before the hurricane. They feel incapable of relating to others from a different part of town because they perceived them as different.

Sense of vulnerability

Many of the respondents expressed fear of being in their familiar places (their neighbourhood and town). It is like their immunity to the bad things in the environment and the external forces of nature has been lost.

Puerto Rico is no longer a good place to live.

There is no electricity, water, the roads are blocked, and no communication. We are desperate. Things are going to get worse, and we are trapped here.

The survivors' friends and neighbours have left, and there is nobody around to trust. Many people thought that by living in the mountain towns they were protected from bad things happening on the island; nothing bad could happen to them, they were tough and had survived many things. It was like the mountains would protect the people in the valleys.

Following Hurricane Maria, fatalism could be identified as a personality trait among the island natives. Now it seems that the people have lost the capacity to screen signs of danger. Every external event, even the arrival of a vehicle with much-needed aid, is welcomed with great suspicion.

Aid workers reported that, as their truck was travelling on a side road down a mountain range, they were confronted by machete-wielding men, who asked: "What do you want from us?" It took time to convince them that the truck was not there to take away things but to share much-needed water and canned food.

Things have gone from bad to worse; as time passes and people have to resort to primitive ways of caring for each other, their capacity to screen out the events around them (good and bad) is no longer in their awareness.

I can't be still if I go over there, I want to come back here (si me voy pa'ya quiero regresar pa'ca). I am waiting for something even worse to happen, and I will lose my life.

Fear can be measured by the tired faces of the elderly who claim that they cannot sleep, an increase in misunderstanding, cursing and physical confrontations, and the use of alcohol. Everyone has a story about what happened on 20 September. Many of those stories are about the irreplaceable loss of natural place and the people who have left the place never to come back. Puerto Rico is a religious country, but people have begun expressing doubts about God's intentions. This is evidenced by expressions of helpless and hopelessness: "I don't want to do anything; I am going to stay here (in the ruins of a house), I don't even want to pray, sing praise songs or go to church. God didn't; I can't even trust Him anymore".

Psychosocial interventions in the immediate aftermath

Psychological First Aid

PFA is a first order intervention that promotes calmness and facilitates connection. PFA is conceptualized as documenting and operationalizing good common sense; those activities that sensible, caring human beings would do for each other anyway (Forbes, Lewis, Varker, Phelps, et al., 2011). In simple terms, PFA includes the provision of information, comfort, emotional care and instrumental support to those exposed to an extreme event, with assistance provided in a step-wise fashion tailored to the person's needs (Forbes, Lewis, Varker, Phelps et al., 2011).

In this initial response, the American Red Cross model was utilized (Psychological First Aid: Helping Others in Times of Stress, 2017). The objective of the intervention was fourfold: (1) create a compassionate environment for disaster survivors and workers; (2) help a person identify what he/she might need; (3) provide immediate support to those in stressful situations and (4) help others cope in the face of stressful events.

Assessment and linking

In the immediate aftermath of Hurricane Maria, people were disoriented and needed to compose themselves. There were two activities that the responders found that worked. At an individual level, people needed others to know that they were alive. They wanted to hear that dear ones knew about them. An example of this activity was an international NGO, which provided satellite phones and satellite uplinks so that families in the affected areas could link with families in the United States. This activity resulted in a feeling of connection with others and the value of knowing that others were thinking and acting on their behalf.

At the community level, people had to feel empowered, to think and act as though they were active participants in their recovery. This exercise reduced the initial stress and fear of being alone. One example of this action occurred in the town of Cayey (Perez Aroyo, 2017). The mayor of the town realized that this event was too big for him and his employees to handle. The third day after the hurricane he set out to identify a "leader" for every street in the municipality. These street leaders mapped their respective streets, identified the damage, prioritized the needs, and engaged the inhabitants in a civic campaign to clean up. Also, the leaders, with the civic engagements of the neighbours, facilitated the distribution of at least one hot meal a day and water.

In the Command Post there was a map of the "barrios" (communities), and every day there were updates of the needs of the people. The street leaders were able to find and take back medicines and needed insulin for many of the elderly, as well as food and water. They also took back valuable information about how other communities were holding up, and the recovery plan for the municipality. This activity

changed the paradigm from hopelessness and stagnation to moving the people into action. This model instilled hope in the survivors.

Recommendation for insertion of psychosocial support following future catastrophic events

The impact of Hurricane Maria in Puerto Rico resulted in the destruction of the infrastructure, and a significant loss of life. The level of previous disaster exposure and preparedness varied considerably in the past 50 years and gave disaster planners at FEMA (Federal Emergency Management Agency) and the local disaster management agency a false sense of their capacity to manage the impending disaster. Contingency planning was inadequate at best. From my point of view, tailoring psychosocial disaster responses to this specific disaster would have alleviated the emotional suffering of thousands of island residents. While many of the previous disasters shared many characteristics (such as potentially traumatic events), distinct variations in the type, scope and population impact of these events and the structure of existing health service systems highlighted the need to tailor psychosocial responses.

For example, hospitals were without light across most of the island. The road infrastructure was damaged, and transportation of emergency vehicles, including ambulances, was limited or non-existent. In some locations of the Central Mountain region, access remains limited at one month after the Hurricane. A large portion of mental health providers were survivors who would not return to their offices until the curfew was lifted, three weeks after the hurricane. The impact of Hurricane Maria required the mobilization of local, national and international resources to address the basic needs of the population.

Tailor the mental health and psychosocial support response to the disaster

It will take some time to fully implement a mental health and psychosocial support programme that addresses issues of traumatic stress, as well as community social and emotional needs. These services, when implemented, will have to be tailored to the geographic areas, the perceived extent of the loss, the affected population, pre-existing mental health services and cultural factors associated with mental health and psychosocial support. These are all predictors of post- and peritraumatic stress. Some natural disasters that destroy large parts of the infrastructure and lead to the break-up and dispersion of communities are also accompanied by substantial mental health impacts (Galea, Brewin, Gruber, Jones and others, 2007). There are a variety of risk and resilience factors that need to be considered when planning the psychosocial response to disasters such as Hurricane Maria (Bonanno, Brewin, Kaniasty & LaGreca, 2010). For example, the American Red Cross provides practical assistance, including linking, first aid and PFA. By the second week after the hurricane, the response included psychoeducation, and crisis and grief counselling to family members and first

responders, as well as to the wider community. In the coming weeks, as local facilities begin to operate, the Red Cross will be making referrals for those in need of long-term care.

Targeting at-risk populations

The identification and targeting of support to particular at-risk groups constituted a key task for disaster responses. All responses sought to target direct disaster survivors and other at-risk groups. Population-based psychosocial support requires assessment and health surveillance of high-risk groups and is of immense practical importance to estimating psychosocial service needs and targeting interventions following a disaster. It is important that we draw lessons from earlier catastrophes and integrate them in the service delivery to affected populations.

Barriers to access to care (providing basic needs and psychosocial support) have been identified in the Central, Southeast and Southwest parts of Puerto Rico. These barriers include aspects associated with the disaster response, such as the identification of survivors, limitations of existing referral pathways, destroyed infrastructure and other difficulties in accessing appropriate care. Screening provides a mechanism to identify survivors in need of treatment and to target interventions. For example, the American Red Cross has provided PFA and psycho-education (including information on disaster mental health care, self-care and available services). Future attempts to improve service accessibility might need to take into account other factors (such as gender, age, disability, socio-economic status, language or culture) that can impact on access to disaster care.

Recognizing the social dimensions and sources of resilience

Large hurricane responses in Puerto Rico, such as those to Hugo (in 1989) and Andrew (in 1992), highlighted the efforts to promote a positive recovery environment that is based on the knowledge of the social, language and contextual dimensions of resilience and recovery within the context of Puerto Rico. Planners and responders need to acknowledge the importance of the Puerto Rican diaspora to the mainland and their immediate response to the affected population on the island. They also have to acknowledge that recovery is different for residents of the urban metro area than for the millions who live in small towns and the central mountain regions.

From the psychosocial perspective, it is important to understand the place of community-level and self-help initiatives that need to be recognized and fostered within disaster response planning, alongside more formal psychosocial support strategies. Social support and bonding are also important to reduce negative psychosocial outcomes after

trauma. One of the key tasks for disaster response planners, therefore, consists of recognizing both the value of existing and emerging support networks of those affected by disaster (as well as their limitations) within a broader framework of psychosocial disaster care. In this context, community- and family-based supports and targeted capacity building initiatives deserve particular consideration (SPHERE Project 2012; Inter-Agency Standing Committee, 2007).

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